4 Things Clinical-Grade AI Can Do for Your Epic EHR Today

Does the term "AI" make you cringe? You're not alone. Nearly a third of healthcare executives say artificial intelligence is one of the most poorly defined and improperly used terms, along with other over-used buzzwords like "disruption" and "digital transformation."

What's possible with AI in healthcare right now?

We can't count on AI to cure cancer yet or even diagnose it accurately. But the truth is, if given a specific job and strong guardrails, AI can safely support healthcare professionals—and it can do it today.

Here's an example: Clinical-grade AI is the major force behind a huge leap forward in medication reconciliation at major hospitals and health systems. In fact, our clinical-grade AI is doing these 4 things today with impressive results:

1. **Translate national drug codes (NDCs)**—When NDCs are created and hosted by drug databases such as Multum, First Databank, and Elsevier, they often don't match between sending and receiving systems, so they appear as free text in your EHR. Clinical-grade AI can safely translate NDCs so drug and sig information display properly and clinicians can quickly understand a patient's medication history.

2. **Make sigs consistent**—There are hundreds of variations for the important patient directions in a prescription. "Take 1 tablet by mouth once daily" can be entered as many as 832 different ways.[1] PO, by mouth, orally, tab, tablet are just a few examples. Unlike a static table that must be maintained, clinical-grade AI can safely normalize sigs from multiple sources in real time and drive consistency within your EHR.

3. **Infer and prepopulate missing data**—Free text due to differing NDCs, variations in sig terms, and missing data all prevent the clean import of medication information into the discrete fields of your EHR. Clinical-grade AI can translate free text, prepopulate information, and reduce the need for manual entry and associated errors. For example, if "Lisinopril 20mg tablets" is in the patient record, but dose, route, and frequency are missing, AI can safely infer 1 TAB, PO, DAILY based on the duration, dispense quantity, and statistically common prescriptions.

"We now have **more data, better data, and data that's a lot faster to import.** Part of my job is leading and mentoring a team of pharmacy technicians that handle gathering medication histories. It's a hectic and difficult job, so providing **tools that help them do their job better** is something I take very seriously."

—Thomas Pickering, PharmD, Administrative Coordinator Transitions of Care, Cone Health

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"Previously, there were discrepancies with the data, sig information did not come through discretely, and our team was very frustrated with the amount of missing information. Now, our team feels more equipped to do their jobs, and feels like **they have a good starting point with the medication history provided** to lead a productive med interview with our patients."

—Jillian Foster, PharmD, VP of Pharmacy, Baptist Memorial Health Care

4. **Convert data at scale**—As hospitals and health systems merge or adopt new EHRs, data migration is a challenge for many CIOs. Manual migration and mapping are costly and time consuming, and often result in a significant loss of data quality. AI can process and normalize drug and sig information at scale, leveraging standards (CCD, HL7, FHIR) to process hundreds of thousands of lines of clinical data in hours.

DrFirst has been using AI to safely translate and infer medication history data since 2015. Our patented, clinical-grade AI solutions leverage the power of natural language processing and machine learning to eliminate manual entry, reduce avoidable errors and ADEs, and provide clinicians with data they can trust. **See how leading health systems use our patented AI in their Epic EHR systems.**

AI IN THE PAST

Poor Definition, Big Expectations

Promises and predictions about the power of IBM Watson seemed to be everywhere 10 years ago, but details were sparse and vague.[2]

Technical professionals didn't take Watson seriously, media and marketing professionals took it too seriously, and ultimately healthcare executives were slow to adopt the solution.

AI IN THE PRESENT

Building Guardrails

Generative AI is new and largely unproven, and clinicians have little information on what data sets were used to train the technology.

Risks to protected health information (PHI) and compliance with HIPAA is also a concern. In some high-profile instances, patient information was entered into a generative AI engine only to be discovered by other users.

"AI hallucinations" can create important patient safety issues.[3] AI outputs need to be verified before trusting them for care decisions. A good rule of thumb is that AI can get you 90% of the way there, but it's still up to the doctor to provide clinical oversight for the final 10%.

"**To save time and improve quality** of medication history data when consolidating EHRs, we developed a data conversion process using an AI engine that cleans and structures data using clinical and statistical context. This **normalized the medication data** while addressing discrepancies and variations from the old EHRs, inferring missing data with context from medication histories to prevent blank fields while **avoiding labor-intensive manual entry.**"

—Robert Lackey, M.D., FAAFP, Chief Medical Information Officer, WellSpan Health

SOURCES

1. Quality and variability of patient directions in electronic prescriptions in the ambulatory care setting. https://pubmed.ncbi.nlm.nih.gov/29345553
2. What happened to Watson Health? https://cacm.acm.org/blogs/blog-cacm/252055-what-happened-to-watson-health/fulltext
3. "Two Physician Leaders Look at the Dangers of Clinical AI," Healthcare Innovation, September 25, 2023. https://www.hcinnovationgroup.com/analytics-ai/artifical-intelligence-machine-learning/news/53073337/two-physician-leaders-look-at-the-dangers-of-clinical-ai

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